

REMARKS

Claims 16-18 and 22-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by JP 8-321301. It is respectfully submitted, however, that these claims are patentable over the art of record for the reasons set forth below.

Applicants' invention, is recited by claim 16, includes a feature which is neither disclosed nor suggested by the art of record, namely:

... ceramic particles having a content of 1 to 10 parts by weight in 100 parts by weight of active substance in the negative electrodes...

As illustrated by Figure 5 (annotated copy enclosed), the inclusion of 1 to 10 parts by weight in 100 parts by weight of the ceramic particles yields "surprising results", namely, an advantageous increase in capacity. For example, increasing Alumina particle content from 0 to 1 increases discharge capacity from 1.5 mAh to 1.8 mAh. This is a 20% increase in discharge capacity. As this feature is neither disclosed nor suggested by the art of record, claim 16 is patentable over the art of record.

Claim 22 also includes the range which is disclosed in claim 16. Claim 22 is thus also patentable over the art of record for the reasons set forth above.

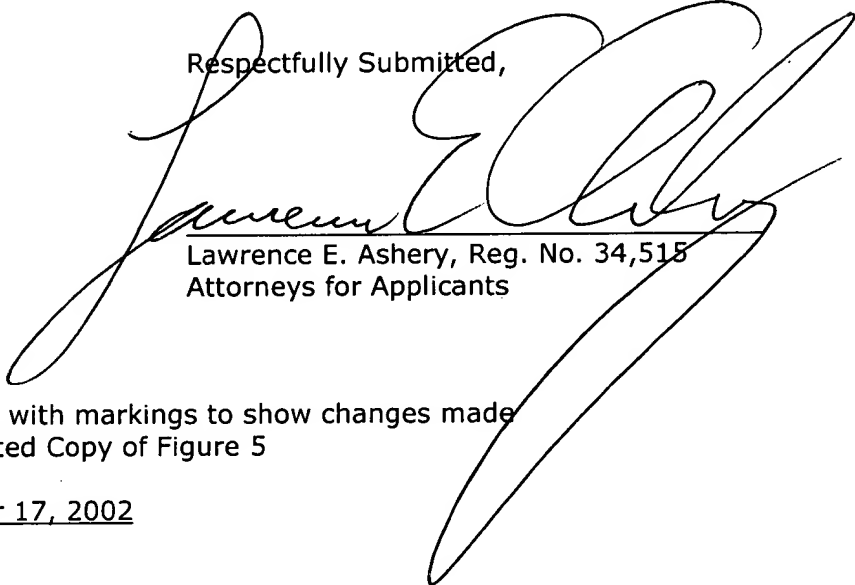
The remaining claims all depend from allowable claims 16 and 22. Thus, the remaining claims are patentable by virtue of their dependency on allowable independent claims.

Claims 19-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 8-321301 in view of Andrei et al. (U.S. Patent No. 5,756,231). These claims, however, include all of the features of claim 16 from which they either directly or indirectly depend. Thus, these claims are also patentable over the art of record for the reasons set forth above.

Claims 31-36 have been added. Claims 31 and 34 include language removed from claims 16 and 22, respectively. Claims 32 and 35 recite the increase of discharge capacity caused by the ceramic particles. This is supported by Figure 5 as originally filed. Claims 33 and 36 recite a narrower range compared to the independent claims.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully Submitted,


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LEA/fp

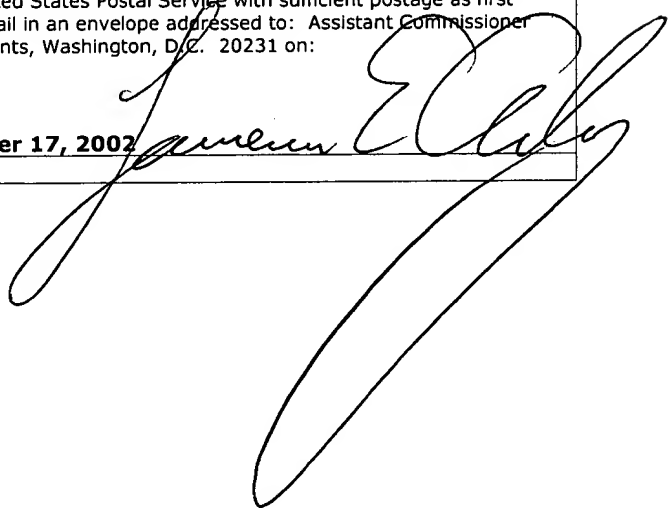
Enclosures: Version with markings to show changes made
Annotated Copy of Figure 5

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October 17, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE CLAIMS:**

Claims 31-36 have been newly added.

- 1 16. (As Amended) A lithium polymer secondary battery comprising:
2 a positive electrode;
3 a negative electrode which is negative during discharging of the
4 battery;
5 a gel polymer electrolyte comprising polymer and an organic
6 electrolyte solution dissolving a lithium salt; and
7 ceramic particles ~~not relating to the charge and discharge reaction of~~
8 ~~the battery in the negative electrode;~~
9 wherein:
10 ~~the content of the ceramic particles is 0.01~~having a content of 1 to 10
11 parts by weight in 100 parts by weight of active substance in the negative electrode;
12 the particle size of the ceramic particles is 10 microns or less; and
13 the gel polymer electrolyte does not comprise ceramic particles.
- 1 22. (As Amended) A non-aqueous lithium ion secondary battery
2 comprising:
3 a positive electrode comprising a lithium transition metal compound
4 oxide;
5 a negative electrode which is negative during discharging of the
6 battery, the negative electrode comprising an active substance that occludes and
7 releases lithium ions;
8 a microporous polymer film separator between the positive electrode
9 and the negative electrode; and
10 a nonaqueous electrolyte solution dissolving a lithium salt;

11 wherein:

12 the negative electrode comprises ceramic particles ~~not relating to the~~
13 ~~charge and discharge reaction of the battery;~~

14 ~~the content of the ceramic particles is 0.01~~ having a content of 1 to 10
15 parts by weight in 100 parts by weight of the active substance in the negative
16 electrode; and

17 the particle size of the ceramic particles is 10 microns or less.



Fig 5

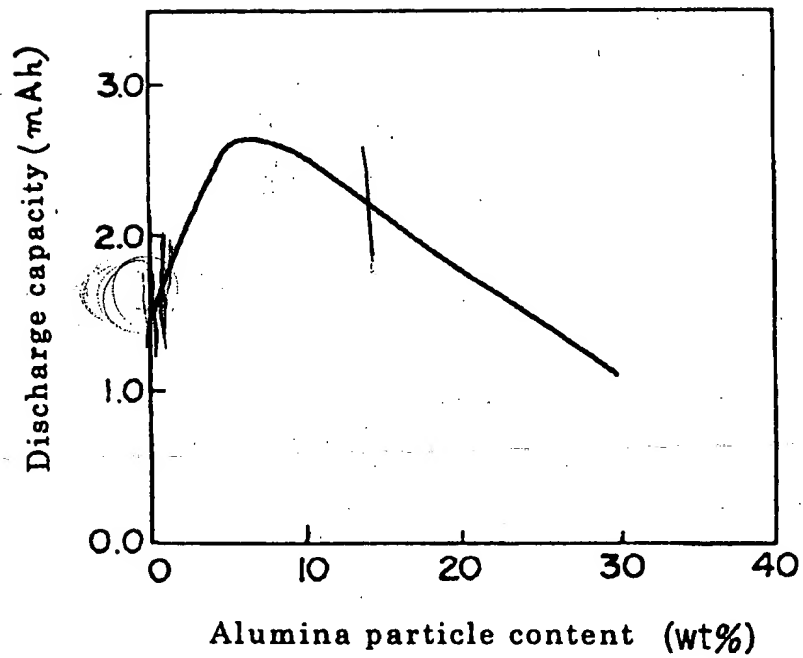


Fig 6

